A Subcutaneous Abscess Caused by Candida Krusei Infection: A rare Manifestation.

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Abstract
Candida is considered a normal microbiota of the gastrointestinal and genitourinary systems with a tendency for an invasive disease if the predisposing conditions exist. Mucocutaneous manifestations of Candida infection include the commonly encountered oropharyngeal thrush, vulvovaginitis, balanitis, intertrigo, paronychia, diaper dermatitis, and the rare chronic mucocutaneous candidiasis. Subcutaneous abscess due to Candida (albicans and non-albicans) is rare, with the literature available only in case reports. We report the first case of a subcutaneous perineal abscess due to C. krusei in a patient with poorly controlled diabetes without immune compromised conditions or a hematologic malignancy.

Keywords: Candida krusei, non-albicans Candida, perineal abscess, immune compromised host, fungal infection.

Case report: A 48-year-old female with insulin-dependent type 2 diabetes mellitus, hypertension, and hypercholesterolemia was brought to our facility for evaluation of acute encephalopathy. She complained of pain in the perineum of 2 weeks duration. Examination revealed a slightly confused obese female, and the local examination of her perineal region revealed vulvovaginal candidiasis and bilateral perirectal subcutaneous abscesses [Figures 1, 2, 3]. Her initial blood test revealed a sodium level of 144 mEq/L, potassium of 2.6 mEq/L, serum bicarbonate of 7 mEq/L, anion gap of 33, blood glucose of 570 mg/dL, pH 7.14, creatinine of 1.2 mg/dL, beta-hydroxybutyrate of 3.8 mmol/L, white blood cell count of 28.3 K, and A1c 12.9; urinalysis was negative for urinary tract infection. She was diagnosed with diabetic ketoacidosis (DKA), perineal abscesses, and candida vulvovaginitis and admitted to MICU for aggressive management and close monitoring. She was started on the hospital DKA protocol, oral fluconazole, IV vancomycin, and IV Piperacillin tazobactam (Zosyn). Incision and drainage of the bilateral perirectal abscesses was performed without complications. Multiple wound cultures, including anaerobic, grew only Candida krusei [Figures 4, 5], confirming C. krusei subcutaneous abscess. She completed 7 days of empiric therapy with IV vancomycin and IV Zosyn; Fluconazole was discontinued and switched to IV Micafungin. She completed 14 days of IV Micafungin with a good response. Post-discharge outpatient follow-up revealed adequate healing of the perineal wounds.

Introduction
Candida krusei, a non-albicans Candida (NAC) species, is an increasingly encountered fungal pathogen in patients with hematologic malignancies and transplant recipients [1, 2, 3]. Previously reported sites of infection include

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Malnourished
Risk factors include the chronic use of immunosuppressants, hematologic malignancies, chronic hemodialysis, enteric surgery or peritonitis, and previous candidemia [6, 7, 9, 11, 12, 13, 15].

Discussion

Candida albicans is the leading cause of candidiasis. Candida krusei, a NAC species, is a diploid, dimorphic ascomycetous yeast that inhabits mucosa in healthy individuals. It can cause life-threatening infections in patients with immunocompromised conditions or hematologic malignancies [1, 2]. Infections caused by NAC species have been steadily increasing in recent years.

Candidiasis is one of the most common fungal infections in humans with associated high mortality in patients with deep-seated organ infections and fungemia. Infections commonly occur in patients with hematologic malignancies, organ transplant recipients, and those on prolonged azole prophylaxis. Candida krusei, even though isolated less frequently than other Candida species, is typically a multidrug-resistant (MDR) pathogen with higher attributable and crude mortality than C. albicans [1, 2]. The infections caused by this organism are of particular relevance in clinical practice because of its intrinsic resistance to fluconazole and decreased susceptibility to amphotericin B and flucytosine [1, 2, 3].

Mucocutaneous infection by C. krusei is exceedingly rare; vulvovaginitis is probably the most familiar manifestation but is still much rarer than vulvovaginitis caused by the other Candida species [21]. Reports on C. krusei presenting with skin manifestations are scarce; abscess in an intravenous heroin drug abuser and a folliculocentric rash in a patient with AML have previously been reported [22, 24]. Subcutaneous abscess due to other Candida species, even though rare, is probably more common than C. krusei and has been reported with C. albicans and C. tropicalis [17, 18, 19, 29]. Invasive infections due to C. krusei frequently occur in patients with predisposing conditions; cutaneous manifestations are rare. To the best of our knowledge, a subcutaneous abscess with diabetes as the only risk factor has never been reported.

References


